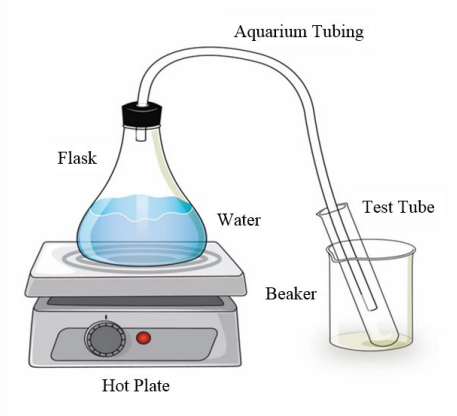
Transcript for Video Clip 4.2

Teacher/video ID:	Anderson, 4.2_stella_WC_anderson_c1
Content area:	Water cycle
STeLLA strategy:	Ask questions to elicit student ideas and predictions (STL strategy 1). Ask questions to probe student ideas and predictions (STL strategy 2). Ask questions to challenge student thinking (STL strategy 3).
Context:	In this lesson on the water cycle, students are making predictions about what might happen if water is boiled in a flask covered with a stopper with a tube coming out of it (see water-changes-system diagram below). The teacher is listening to ideas from one small group. The students have already studied how molecules move as they gain heat energy during evaporation and lose heat energy during condensation. They haven't yet observed this water-changes system in action, but they've already observed in previous lessons a beaker of boiling water and a glass of ice water with water droplets forming on the outside of the glass.



Video Clip 2

Time Code	Speaker	Discussion
Prior to clip	T	*Teacher posed this question: What do you predict will happen when we heat this flask?*
0:00:02.6	T	Where are we at, guys? What have you written so far?
0:00:03.7	SN	So I … we said it … the hot plate heats up the water and turns into evaporation.
0:00:08.7	T	Uh-huh.
0:00:09.2	S	Then it'll travel through the te … aquarium tube.
0:00:11.5	T	Yeah.
0:00:12.0	S	And go into the test tube, and then it'll, like, turn into liquid state again.
0:00:17.6	T	So it'll turn into the liquid state right here? It won't turn into the liquid state anywhere else?
0:00:22.3	S	Well, maybe around the tube, but, like, just little … dots on the tube, but it'll be down here mostly.

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0:00:34.5	T	OK. Why would it turn back [to liquid]? If it's going to turn back, it seems like you all have it turning into liquid down at the bottom. Why is it doing that? Why—
0:00:43.4	S	'Cause it denses back up again.
0:00:45.6	T	What do you mean by "denses back [up]"?
0:00:46.9	S	Like, it loses energy and turns back into a liquid.
0:00:50.9	T	OK, can you … can we get more talk from you guys? Maya and Eddie.
0:00:54.4	SN	I think it doesn't do that because if it's in a gas right here, if it doesn't turn into a liquid quick enough, then it'll just come back and … come back out of the test tube.
0:01:06.4	T	Oh, OK, so you're saying … if I heard you correctly, you're saying that if it … if it's still in a gas, I think is what you mean, is it's … it's just going to be in the tube.
0:01:16.6	T	It's not going to be here. It would be in the tube. Is that correct?
0:01:19.5	S	Yeah.
0:01:19.9	T	OK. So the gas wouldn't get pushed out? It would just stay in the tube?
0:01:23.3	S	It'd get wet unless it … it's … some … if, like, almost all of it came in here. Then it would push it down.
0:01:31.6	T	OK.
0:01:31.8	S	It [the gas] wouldn't be so much in there because—
0:01:33.5	T	What do you think would be— Oh, what …what do you mean by "so much in there"? What would be in there that would make it crowded?
0:01:38.7	S	It would have so much water vapor in there that it would push it out of the tube.
0:01:44.2	T	OK. So the individual water molecules in … that are in the gaseous form are going … they're going to be pushing each other? What evidence do you have that they do that?
0:01:52.2	S	Because they're bouncing around, and they push the other [water-vapor] molecules out of the way.
0:01:56.8	T	OK, that's cool thinking, that's cool thinking. Why don't you write some of these notes down, guys? Make some predictions on that.